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# Integrated Services Access

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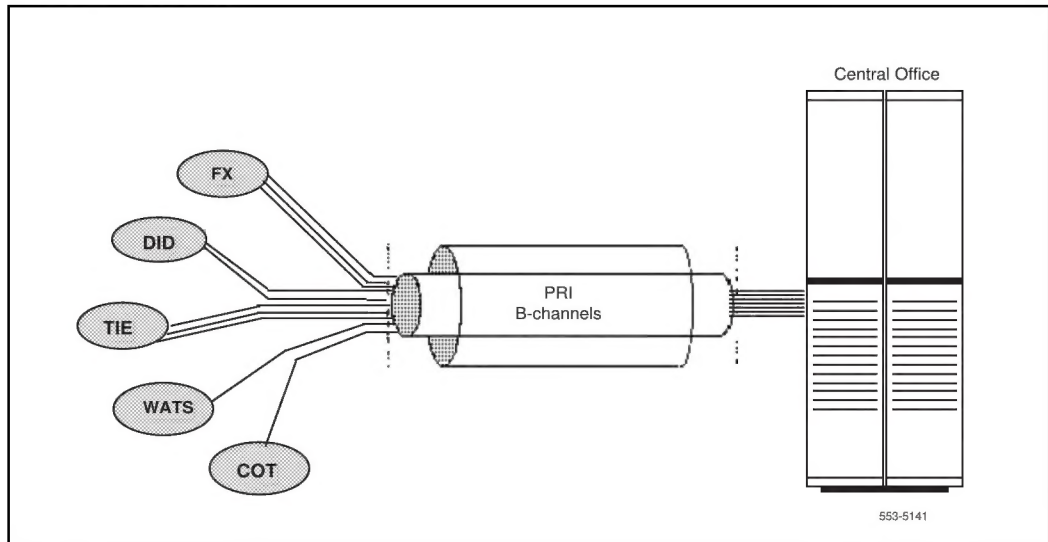
Integrated Services Access (ISA) is an ISDN PRI feature offered by Meridian 1 for connecting to switches such as DMS-100 and DMS-250.

ISA allows multiple service routes to share the same common pool of B-channels. Unlike dedicated routes, which require each service route to have its own trunks of the same trunk type, ISA trunks are shared among many service routes, and they can carry calls of different types. These call types can change on a per call basis. In addition to taking on different trunk types, the service routes can also be uniquely configured for other features, such as Dialed Number Identification Services (DNIS), Incoming Digit Conversion (IDC), or Auto-Terminate.

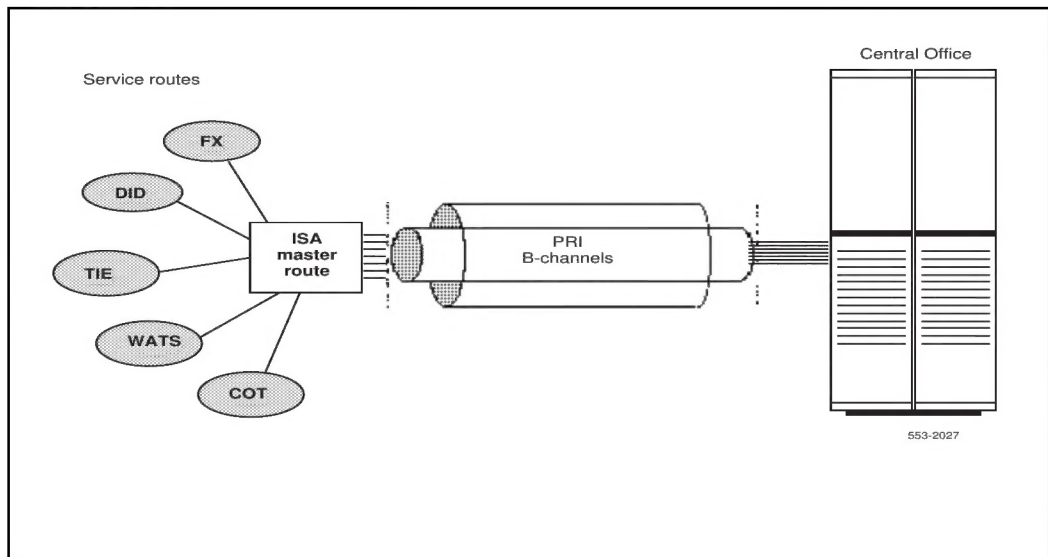
Figures 33 and 34 compare dedicated service with ISA's multiple service routes sharing a common pool of B-channels.

AT&T's Call-by-Call nodal service offering is similar to Northern Telecom's DMS-250 ISA. Instead of multiple call/trunk types over a single ISDN PRI channel, AT&T offers services from the 4ESS Inter Exchange Carrier (IEC) such as MEGACOM, SDN, and ACCUNET.

**Figure 33**  
**Dedicated trunks**



**Figure 34**  
**ISA trunks**



## Establishing ISA routes

Basic PRI configuration must be performed before Integrated Services Access (ISA) is defined (see “ISDN product overview”). ISA routes and trunks must be defined to access Northern Telecom’s ISA functionality or AT&T’s Call-by-Call Service.

You cannot configure trunks for the service route that also accesses the ISA master route. With a single PRI (23B + D) configuration, all 23 B-channels can be configured for the ISA master route.

ISA routes cannot be accessed directly, so they must be blocked in the following programs, if applicable:

|       |                                                                                     |
|-------|-------------------------------------------------------------------------------------|
| LD 19 | Code Restriction                                                                    |
| LD 27 | Alternate Route Selection (ARS)                                                     |
| LD 86 | Network Alternate Route Selection (NARS) and Basic Alternate Route Selection (BARS) |
| LD 93 | Tenant Services                                                                     |

## Accessing the ISA master route

The caller dials the access code of a service route to access an ISA master route. This access can also be achieved through digit manipulation by BARS or NARS or by means of direct trunk access (TARG) values in LD 10, LD 11, and LD 16. A route is configured as an ISA type through service change in LD 16. The ISA master route contains a list of B-channels over PRI that can be shared.

Different service route types such as TIE or WATS are created and associated with an ISA master route type. Service routes are not permitted to have Private trunks or B-channel members. To access call-by-call capability, the caller uses NARS/BARS or CDP. Automatic stepping from a service route to an ISA master route is performed and the ISA master route searches for an idle ISA channel. The caller is prevented from dialing the access code of an ISA master route directly.

These ISA configuration prompts are described in the following sections.

- the Network Service Facility (NSF) option
- the Min/Max function
- the Service Identifier (SID)

### **Network Services Facility option**

This option is configured on the Meridian 1 to indicate whether it expects the Network Services Facility (NSF) Identification Element (IE) from the DMS. The NSF information dictates which service route the Meridian 1 will use to terminate an incoming call.

Northern Telecom connectivity to DMS provides Public, Private, INWATS, OUTWATS, TIE, and FX call types. When specifying COT or DID, the default is the Public call type. The call types determine the NSF values. (NSF = NO yields the Public call type.)

The values for the COT/DID service route (COTR), the WATS service route (WATR), and the TIE service route (TIER) are for incoming call termination only. Predefined NARS, BARS, or CDP allows multiple outgoing routes. The COTR can be a route number for a central office DID/DOD route. It is used for public calls. For incoming public calls, if COTR is a central office route, it is routed to the attendant. If it is a DID/DOD route, it translates the last “n” digits (as predefined in LD 15). For Private and TIE calls, the called number can be translated as defined for the service route.

With NSF = NO:

- COTR = all incoming DID/COT calls
- TIER = all incoming TIE calls

Only Public and TIE calls can be terminated. Because there is no Min/Max throttling, one service route may use all the trunks in the pool. If the NSF is sent from the central office, a master route can still be configured with NSF = NO and the NSF is ignored.

With NSF = YES:

- COTR = all incoming DID/COT calls
- WATR = all incoming WATS calls (prior to X11 release 17)  
OR = incoming WATS calls without SID (X11 release 17)

Different TIE and FX calls can be terminated to multiple service routes. With X11 release 17, there can be multiple INWATS routes. These routes are distinguished by the unique SID defined in the service route. This number must be coordinated with the DMS for correct call termination.

**Minimum and maximum counter function**

The minimum and maximum counter (Min/Max) function allows customers more control and the ability to manage call patterns: you can define a minimum number of B-channels for a service route and you can define a maximum number of calls allowed per service route.

The sum of all the Min values must be less than or equal to the number of B-channels in the master route. The Max values for each service route must be equal to or less than the number of B-channels in the pool less all Min values from other service routes.

The sum of all Min values for the service route cannot exceed the number of B-channels defined for the ISA master route.

When the NSF prompt is YES and the Max value is reached in a service route, the All Trunks Busy (ATB) counter is incremented. The ATB count is not incremented when NSF is NO.

The ATB value is provided during the printing of traffic reports. The ATB is pegged against individual service routes when the maximum number of B-channels reserved for that call type has been reached. The ATB counter of an ISA master route is also incremented when the last B-channel of the ISA master route is busied. This occurs whether the NSF prompt is YES or NO.

**Service Identifier**

In addition to the call type (route type), each call is identified by a service Identifier (SID), which is used by the Meridian 1 and the central office for routing. The SID prompt is available when the NSF prompt is set to YES. These service identifiers must be set up in coordination with the central office for call type delivery and routing purposes.

The Service Identifier allows a call type with multiple SIDs such as INWATS to go to prespecified Directory Numbers.

Before X11 release 17, the SID defaults to the route number, and the value range is 0–127. With X11 release 17, the SID no longer has a default value. Also, the value range of SIDs is expanded to support 0–511.

## ISA capability

**Note:** Support of ISA for DMS switches and Call-by-Call Service Selection for AT&T switches has been withdrawn for X11 software releases prior to X11 release 16. Therefore, X11 release 16 is the minimum release to support ISA capability.

### X11 release 16

Basic ISA functionality includes the following:

- Incoming Digit Conversion (IDC) is supported for DID call type only.
- All INWATS calls terminate to the attendant console.
- ISA supports two-way DID trunk types (as do all PRI connections to a central office).
- A total of 127 SID routes is allowed for all trunk types per customer.
- Multiple routes can be defined.
- Calls are routed based on Service Identifier (SID) value.

### Meridian 1 to DMS-100

WATS:

- Only one INWATS route can be defined.
- All INWATS calls terminate to the attendant console.
- OUTWATS services are not limited to a single outgoing route.

COT or DID:

- Only one incoming route can be defined: either COT or DID, but not both.
- DID trunk type supports two-way traffic (inbound and outbound).
- More than one outgoing route can be defined.
- DID operates like a two-way COT.

TIE:

- Multiple routes can be defined.
- They are routed according to the Service Identifier (SID) value.

**Note:** In LD 16, if NSF = NO, then only one TIE route can be defined.

FX:

- Multiple routes can be defined.
- They are routed according to the Service Identifier (SID) value.

### **Meridian 1 to DMS-250**

This includes basic ISA functionality as well as the following:

- Private call type is supported for DMS-250 interfaces to the Meridian 1 and is defined as TIE.

WATS:

- Only one INWATS route can be defined.
- All INWATS calls terminate to the attendant console.
- OUTWATS services are not limited to a single outgoing route.

TIE:

- Multiple routes can be defined.
- They are routed according to the Service Identifier (SID) value.

**Note:** In LD 16, if NSF = NO, then only one TIE route can be defined.

FX:

- Multiple routes can be defined.
- They are routed according to the Service Identifier (SID) value.

COT or DID:

- Only one incoming route can be defined either COT or DID, but not both.
- DID trunk type supports two-way traffic (inbound and outbound).
- More than one outgoing route can be defined.
- DID operates like a two-way COT.

### **Meridian 1 to 4ESS**

Meridian 1 supports the following AT&T 4ESS nodal service types:

- ACCUNET, a T1 access service for both voice or data
- SDN, Software Defined Network, an AT&T virtual networking package
- MEGACOM 800, inbound domestic bundling
- MEGACOM, outbound domestic bundling
- WATB, banded WATS (the user can specify a band, such as Band 3).
- WATM (the user can specify wide area service exclusive to Band 1 through 9; for example, Band 5 means 0 to 5).
- LDS, Long Distance Service, including “World Connect” (outbound international)
- IWAT, regular 800 service
- I800, International 800, anything outside the U.S.

## **X11 release 17**

In X11 release 17, ISA is enhanced to provide the following:

- Private, INWATS, FX, and TIE call types received from an ISA master route terminate to an individual set with or without Incoming Digit Conversion (IDC) for the DMS and AT&T interfaces.
- ISA service routes allow an Auto-Terminate DN to be defined in the route data block. Calls can terminate to an ACD queue using Dialed Number Identification Services (DNIS) for the DMS and AT&T interfaces.
- Private call type is supported for the DMS interface on a per route basis. (Specify Private in LD 16.)



- Service Identifier (SID) is supported with INWATS call types for the DMS interface.
- The Service Identifier (SID) value no longer defaults to route number. A unique value must be specified by the user.
- When printing the route data block for an ISA master route, all the associated service routes are printed after the new prompt, SVRT, in LD 21. Figure 35 shows how SVRT in LD 21 prints the ISA service routes configured in LD 16.

**Figure 35**  
**LD 21 SVRT prompt (X11 release 17)**

LD 16

| <u>Prompt</u> | <u>Response</u> |
|---------------|-----------------|
| ROUT          | 50              |
| TKTP          | TIE             |
| ISAR          | YES             |
| RTN           | 60              |

LD 16

| <u>Prompt</u> | <u>Response</u> |
|---------------|-----------------|
| ROUT          | 51              |
| TKTP          | WAT             |
| ISAR          | YES             |
| RTN           | 60              |

LD 16

| <u>Prompt</u> | <u>Response</u> |
|---------------|-----------------|
| ROUT          | 52              |
| TKTP          | COT             |
| ISAR          | YES             |
| RTN           | 60              |

LD 21

| <u>Prompt</u> | <u>Response</u> |
|---------------|-----------------|
| ROUT          | 60              |
| TKTP          | ISA             |
| SVRT          | 50              |
|               | 51              |
|               | 52              |

**Note:** The prompt SVRT does not appear in LD 16. When the route is configured in LD 16, this information is added automatically to the ISA master route.

553-5142

## Operating parameters

ISA supports ST, STE, NT, RT, XT, 21, 21E, 51, 61, 71, and 81 system types.

SL-100 and DMS products require BCS 30 or later for ISA connectivity to the Meridian 1.

The X11 release 17 ISA enhancements are based on the following features:

- Dialed Number Identification Services (DNIS) offered on X11 release 10 or above.
- Incoming Digit Conversion (IDC) for Direct Inward Dialing (DID) offered on X11 release 12 or above.

Characteristics of the X11 release 17 ISA enhancements are as follows:

- The range of the Service Identifier (SID) for the Meridian 1 to DMS interface is from 0 to 511. Each SID received in the ISA trunks uniquely corresponds to a service route defined in LD 16. Also, each service route uniquely corresponds to a SID in the DMS machine type.
- The range of the Service Parameter for the Meridian 1 to ESS interfaces is from 0 to 9 for the parameterized WATS band service. WATR and COTR depend on the operation of service routes.
- For Meridian 1 to DMS interfaces, if there is no Network Specific Facility Information Element (NSF) (IE) received in the ISA master route, Meridian 1 treats the call using the service route configuration defined for the COTR prompt in LD 16. If the trunk type of the COTR is COT, all the calls terminate to the Meridian 1 attendant. If the trunk type of the COTR is DID, each call terminates to its DID number. Similarly, if the trunk type of the WATR is WAT, all the calls terminate to the Meridian 1 attendant. If the trunk type of the WATR is DID, each call terminates to its DID number.
- For the Meridian 1 to ESS interfaces, if there is no NSF IE received in the ISA master route, Meridian 1 treats the call using the ISA service route configuration, which is defined as the ACCUNET service for the SRVC prompt in LD 16. If the trunk type of the ISA service route is Direct Inward Dialing (DID), each call terminates to its DID number.

- If an INWATS call or Public call received in the ISA master route is intended to be terminated to the Meridian 1 attendant, either IDC can be used to convert the incoming called number of the attendant DN, or the incoming called number must match the Listed Directory Number (LDN) in the Customer data block. You can also terminate one service route per ISA route by programming the service route number at the COTR and WATR prompts.
- For the Meridian 1 to DMS interfaces, the minimum and maximum counter (Min/Max) function is on a per service route basis. For example, route 40 (call type of OUTWATS with SID 9) or route 45 (call type of OUTWATS with SID 13) can each reserve its own minimum B-channels and limit its maximum B-channels to be used in the ISA pools.
- Since AT&T is limited to one service type per service route in a given ISA master route, for the Meridian 1 to ESS interfaces, the Min/Max counter function is on a per service route basis. That is, AT&T supports only one Min/Max function for the service types in a given ISA master route, not a Min/Max per band. Configure only one set of the minimum and the maximum B-channels in LD 16 for all the bands of the WATB service.
- For AT&T interfaces, only nine possible services can be used per ISA master route. With Northern Telecom DMS products, there are 512 possibilities, one for each SID value.

Tables 40 and 41 illustrate the Min/Max function, assuming 23 ISA B-channels.

**Table 40**  
**Example of Min/Max function for Meridian 1 to DMS**

| Call Type                                                                       | Meridian 1 to DMS interface<br>(WATR = 30, COTR = 10, NSF = YES) | MIN | MAX |
|---------------------------------------------------------------------------------|------------------------------------------------------------------|-----|-----|
| Public                                                                          | (rout 10, tkty DID, icog IAO)                                    | 10  | 13  |
| Private                                                                         | (rout 20, tkty TIE, sid 22, facy PRV, icog IAO)                  | 1   | 3   |
| INWATS                                                                          | (rout 30, tkty WAT, icog ICT)                                    | 1   | 3   |
| INWATS                                                                          | (rout 35, tkty WAT, sid 30, icog ICT)                            | 1   | 1   |
| OUTWATS                                                                         | (rout 40, tkty WAT, sid 9, icog OGT)                             | 1   | 2   |
| OUTWATS                                                                         | (rout 45, tkty WAT, sid 13, icog IAO)                            | 1   | 1   |
| FX                                                                              | (rout 60, tktp TIE, sid 60, facy TIE, icog IAO)                  | 1   | 4   |
| TIE                                                                             | (rout 60, tkty TIE, sid 60, facy TIE, icog IAO)                  | 2   | 3   |
| TIE                                                                             | (rout 65, tkty TIE, sid 65, facy TIE, icog IAO)                  | 2   | 3   |
|                                                                                 | Total                                                            | 20  |     |
| <b>Note 1:</b> See the Min/Max rules contained in this module.                  |                                                                  |     |     |
| <b>Note 2:</b> Service types are dominant over call types with AT&T interfaces. |                                                                  |     |     |

**Table 41**  
**Example of Min/Max function for Meridian 1 to ESS**

| Service                                                      | Meridian 1 to ESS interface           | MIN | MAX |
|--------------------------------------------------------------|---------------------------------------|-----|-----|
| ACCunet                                                      | (rout 10, tkty DID, icog IAO)         | 10  | 15  |
| SDN                                                          | (rout 20, tkty TIE, icog IAO)         | 1   | 3   |
| IWAT                                                         | (rout 30, tkty WAT, icog ICT)         | 1   | 3   |
| WATB                                                         | (rout 40, tkty WAT, sprm 9, icog OGT) | 1   | 2   |
| WATM                                                         | (rout 45, tkty WAT, icog OGT)         | 1   | 2   |
| LDS                                                          | (rout 70, tkty TIE, icog IAO)         | 2   | 3   |
| I800                                                         | (rout 80, tkty TIE, icog IAO)         | 2   | 3   |
|                                                              | Total                                 | 18  |     |
| <b>Note:</b> See the Min/Max rules contained in this module. |                                       |     |     |

## Feature interactions

- Enbloc dialing  
 Enbloc dialing in ISDN PRI performs dialed digit analysis to determine the end of dialing before constructing the outgoing SETUP message. The Trunk Access Code applies to the service route, not to the ISA master route.
- nB+D Primary Rate Interface  
 nB + D is an ISDN feature developed for Meridian 1 in X11 release 12. Meridian 1 allows 16 DS1 loops controlled by one primary D-channel (on channel 24 of the first DS1 loop) and one backup D-channel (on channel 24 of the second DS1 loop). ISA can use the 382 B-channels as the ISA pool of trunks.
- AT&T 4ESS SDN Access  
 Software Defined Network (SDN) is a service offered by AT&T 4ESS for the virtual private network. SDN can be offered on dedicated channels or ISA channels.

- Incoming Digit Conversion (IDC)  
Part or all of the digits received in the DID route are converted and terminated at the existing internal DN in the Meridian 1. With this enhancement, IDC applies to the incoming WATS route over the ISDN interface.
- Dialed Number Identification Services (DNIS)  
DNIS provides the last three or four digits of the dialed DN from DID or TIE trunk to be displayed in the Meridian 1 set digit display when the DNIS call terminates on an ACD DN. DNIS length flexibility, introduced with X11 Release 20, allows 1–7 digits. DNIS is supported on a per route basis when using the ISA feature. DNIS also applies to the INWATS service route over the ISDN interface.

Feature packaging

Table 42 shows the packages required for ISA. See *X11 features and services* (553-3001-305) for X11 release software packages and their dependencies.

Table 42  
Package requirements for ISA enhancements

| Package                                                                                                                                                                                                              | Name of package                                                           | Mnemonic |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|----------|
| 117                                                                                                                                                                                                                  | Call-by-Call Service Selection<br><i>Dependencies:</i><br>145, 146,149    | CBC      |
| 145                                                                                                                                                                                                                  | ISDN Signaling                                                            | ISDN     |
| 146                                                                                                                                                                                                                  | ISDN Primary Rate Interface<br><i>Dependencies:</i><br>75, 145, 19 (CLID) | PRI      |
| <b>Note 1:</b> Package 149, IEC, is required for Inter-Exchange Carrier, that is DMS-250 and AT&T 4ESS.                                                                                                              |                                                                           |          |
| <b>Note 2:</b> If Incoming Digit Conversion (IDC) is required (see “Feature implementation” on page 355), then package 110, IDC for DID, is necessary. It is dependent on package 49, New Flexible Code Restriction. |                                                                           |          |
| <b>Note 3:</b> If Dialed Number Identification Services (DNIS) is required (see “Feature implementation” on page 355), then package 98, DNIS, is required.                                                           |                                                                           |          |

## Feature implementation

### Configuring ISA routes

Basic PRI configuration must be performed before Integrated Services Access (ISA) is defined (see “ISDN product overview” on page 5). ISA routes and trunks must be defined to access Northern Telecom’s ISA functionality or AT&T’s Call-by-Call Service.

To configure ISA, take the following steps:

- 1 LD 16 Route Data Block (Procedure 17)  
Define the ISA master route, before other route types.
- 2 LD 14 Trunk Data Block (Procedure 18)  
Define the associated list of ISA trunks.
- 3 LD 16 Route Data Block (Procedure 19)  
Define all service routes.

#### Procedure 17

##### Use LD 16 to create an ISA master route (Part 1 of 2)

| Prompt | Response      | Description                                                                                |
|--------|---------------|--------------------------------------------------------------------------------------------|
| REQ    | NEW, CHG, OUT |                                                                                            |
| TYPE   | RDB           | Route Data Block                                                                           |
| CUST   | 0–99          | Customer number                                                                            |
| ROUT   | 0–511         | Route number                                                                               |
| TKTP   | ISA           | Create an ISA trunk route                                                                  |
|        |               | <b>Note:</b> Package 117, Call-By-Call Service, is required to define an ISA master route. |
| DTRK   | YES           | Digital trunk route                                                                        |
| DGTP   | PRI           | Digital trunk type                                                                         |
| ISDN   | YES           | ISDN option                                                                                |
| MODE   | PRA           | D-channel mode controlling the route (ISA master route)                                    |
| PNI    | 1–32700       | Customer’s Private ID                                                                      |

## Procedure 17

### Use LD 16 to create an ISA master route (Part 2 of 2)

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| Prompt | Response      | Description                                                                                                                                         |
|--------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| IFC    | aaaa          | Interface type: (D100), ESS4, ESS5, SL1, S100, D250<br><br><b>Note:</b> The IFC of an ISA master route and its associated service route must match. |
| NSF    | (NO),YES      | Network Service Facility (for TKTP = ISA and non-AT&T IFC; AT&T always has NSF)                                                                     |
| COTR   | 0-511         | DID/central office route number<br>Prompted if IFC = D100, SL1, S100, or D250. Enter CO or DID route.                                               |
| TIER   | 0-511         | TIE route number<br>Prompted if IFC = D100, SL1, S100, or D250 and NSF = NO                                                                         |
| WATR   | 0-511         | WATS route number<br>Prompted if IFC = D100, SL1, S100, or D250 and NSF = YES                                                                       |
| ICOG   | IAO, ICT, OGT | Incoming and outgoing trunk, incoming trunk, outgoing trunk                                                                                         |
| SRCH   | RRB           | Round robin hunting for outgoing trunks                                                                                                             |
| ACOD   | xxxx          | Trunk route access code                                                                                                                             |

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**Procedure 18**  
**Use LD 14 to configure ISA trunks**

| Prompt              | Response           | Description                                                                  |
|---------------------|--------------------|------------------------------------------------------------------------------|
| REQ                 | NEW, CHG, MOV, OUT |                                                                              |
| TYPE                | ISA                | ISA trunk type                                                               |
| TN                  | loop ch            | Terminal number address—use loop number created in LD 17                     |
|                     | 0–159              | PRI loop number                                                              |
|                     | 1–24               | PRI channel                                                                  |
| CUST                | 0–99               | Customer number                                                              |
| RTMB                | 0–511, 1–254       | Route and Member number for SL-1 NT, RT, XT, and options 51, 61, 71, and 81. |
|                     | 0–127, 1–254       | For all other machine types.                                                 |
| B-CHANNEL SIGNALING |                    |                                                                              |
| TGAR                | (0)–31             | Trunk Group Access Restriction                                               |
| CLS                 | aaa                | Class of service options                                                     |

**Procedure 19**  
**Use LD 16 to configure ISA service routes (Part 1 of 2)**

| Prompt | Response  | Description                                                                                                                                                                                                                                          |
|--------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REQ    | NEW       | Add an ISA service route                                                                                                                                                                                                                             |
| TYPE   | RDB       | Route data block                                                                                                                                                                                                                                     |
| CUST   | 0–99      | Customer number                                                                                                                                                                                                                                      |
| ROUT   | 0–511     | Route number                                                                                                                                                                                                                                         |
| TKTP   | aaaa      | Types of service route allowed with ISDN                                                                                                                                                                                                             |
| DTRK   | YES       | Digital trunk route                                                                                                                                                                                                                                  |
| DGTP   | PRI       | Digital trunk type                                                                                                                                                                                                                                   |
| ISDN   | YES       | ISDN option                                                                                                                                                                                                                                          |
| _MODE  | PRA       | PRA master route for ISA                                                                                                                                                                                                                             |
| IFC    | aaaa      | Interface type: (D100), ESS4, ESS5, SL1, S100, D250<br><br><b>Note:</b> The IFC of an ISA master route and its associated service route must match.                                                                                                  |
| SRVC   | (ACC)     | Service for AT&T ESS connections: NNSF, ACC, I800, LDS, M800, MEG, SDN, IWAT, WATM, WATB<br>Prompted if IFC = ESS4 or ESS5<br><br><b>Note:</b> NSF refers to the services provided on a Call-by-Call basis.                                          |
| _SRPM  | 0–(9)     | WATS band.<br>Prompted only if SRVC = WATB.                                                                                                                                                                                                          |
| ISAR   | Yes, (No) | ISA service route                                                                                                                                                                                                                                    |
| _RTN   | 0–511     | Select route number of any configured ISA master route<br>Prompted only when ISAR = YES.                                                                                                                                                             |
| _FACY  | Yes, (No) | Facility for the call type (only applies if the far-end will be sending an NSF information element, NSF = YES)<br>Prompted when TKTP = TIE, ISAR = YES, and IFC = D100/D250/S100<br>TIE connection in the NSF IE<br>Private connection in the NSF IE |
| _SID   | 0–511     | Service Route Identifier number. Prompted if NSF = YES and TKTP = TIE/WAT/FX.                                                                                                                                                                        |

**Procedure 19****Use LD 16 to configure ISA service routes (Part 2 of 2)**

| Prompt | Response      | Description                                                 |
|--------|---------------|-------------------------------------------------------------|
| _MIN   | xx            | Minimum number of channels reserved on the ISA master route |
| _MAX   | xx            | Maximum number of channels reserved on the ISA master route |
| _PRIM  | Yes, (No)     | ISA route class of service (not prompted after X11 R15      |
| ICOG   | IAO, ICT, OGT | Incoming and outgoing trunk, incoming trunk, outgoing trunk |
| ACOD   | xxxx          | Trunk route access code                                     |

**Note:** The Listed Directory Number (LDN0) value must be set in LD 15, Customer data block, in order to terminate ISDN/DID incoming calls such as ISA. See “Configuring PRI” on page 31.

## Feature testing

Test each PRI trunk to ensure that the Meridian 1 completes an ISA call. Run the following test for each of the available call types: TIE, FX, COT, INWATS, OUTWATS, and DID.

**Note:** COT and DID are recognized as Public call types and they must be on the same route. They can be used for incoming or outgoing routes.

To test ISA, follow steps 1 through 8.

- 1 Select a PRI to be tested.
- 2 Access LD 60. Use STAT command on all pertinent B-channels.
- 3 Set all the Min/Max values in all service routes to 1.
- 4 Make a test call on a trunk route that accesses the PRI being tested. Be sure the test call is to a valid destination.

- 5**    Use LD 80 to ensure a B-channel from the ISA pool is in use. Then:
  - Place the call on hold.
  - Make another call. You should receive an overflow signal (fast busy).
  - Repeat this procedure for every outgoing service route.
- 6**    Disconnect both calls.
- 7**    Ask the terminating end to place an incoming call for each incoming call type. Then:
  - Place the call on hold.
  - Ask the terminating end to place another call. They should receive an overflow signal (fast busy).
- 8**    Disconnect both calls.